

A MICROWAVE ABLATION INSTRUMENT WITH FLEXIBLE ANTENNA ASSEMBLY AND METHOD

5

ABSTRACT

09/ 484548

10 A flexible microwave antenna assembly for a surgical ablation instrument capable of conforming to a tissue surface for ablation thereof. The ablation instrument includes a transmission line having a proximal portion suitable for connection to an electromagnetic energy source. The antenna assembly includes a flexible antenna coupled to the transmission line for radially generating an electric field sufficiently strong to cause tissue ablation. A flexible shield device is coupled to the antenna to substantially shield a surrounding area of the antenna from the electric field radially generated therefrom while permitting a majority of the field to be directed generally in a predetermined direction. A flexible insulator is disposed between the shield device and the antenna which defines a window portion enabling the transmission of the directed electric field in the predetermined direction. The antenna, the shield device and the insulator are formed for selective manipulative bending thereof, as a unit, to one of a plurality of contact positions to generally conform the window portion to the biological tissue surface to be ablated.

20